

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION**

**ESCORT INC.,
an Illinois Corporation,
*Plaintiff,***

v.

**UNIDEN AMERICA CORPORATION,
a Delaware Corporation,
*Defendant.***

§
§
§
§
§
§
§
§
§

CIVIL ACTION NO: 3:18-cv-00161-N

**APPENDIX TO PLAINTIFF ESCORT INC.'S RESPONSIVE CLAIM CONSTRUCTION
BRIEF**

<u>Document</u>	<u>Appendix Page No.</u>
Application No. 09/292,089	RAPP. 001

Dated: November 30, 2018

Respectfully submitted,

/s/ Megan M. O'Laughlin

Megan M. O'Laughlin (TX24013263)

E-Mail: molaughlin@hitchcockevert.com

John T. Tower (TX24045362)

E-Mail: jtower@hitchcockevert.com

Kristen M. Zahnnow (TX24102678)

E-Mail: kzahnnow@hitchcockevert.com

HITCHCOCK EVERT LLP

750 North St. Paul Street, Suite 1110

Dallas, TX 75201

Telephone: (214) 953-1111

Facsimile: (214) 953-1121

COUNSEL FOR PLAINTIFF

CERTIFICATE OF SERVICE

On November 30, 2018, I electronically submitted the foregoing document with the clerk of court for the U.S. District Court, Northern District of Texas, using the electronic case filing system of the court. I hereby certify that I have served all counsel and /or pro se parties of record electronically or by another manner authorized by Federal Rule of Civil Procedure 5(b)(2).

/s/ Megan M. O'Laughlin

Megan M. O'Laughlin

Please type a plus sign (+) inside this box →

+

PTO/SB/05 (4/98)

Approved for use through 09/30/00. OMB 0651-0032

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))	Attorney Docket No.	Total Pages
	First Named Inventor or Application Identifier Hoyt A. Fleming III	
	Title An Individual	
	Express Mail Label No.	EH025364125US

APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.		ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231	
1.	<input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17) (Submit an original, and a duplicate for fee processing)	6.	<input type="checkbox"/> Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary) a. <input type="checkbox"/> Computer Readable Copy b. <input type="checkbox"/> Paper Copy (identical to computer copy) c. <input type="checkbox"/> Statement verifying identity of above copies
2.	<input checked="" type="checkbox"/> Specification Total Pages 16 (preferred arrangement set forth below) -Descriptive -Cross References to Related Application -Statement Regarding Fed sponsored R & D -Reference to Microfiche Appendix -Background of the Invention -Brief Summary of the Invention -Brief Description of the Drawings (if filed) -Detailed Description -Claim(s) -Abstract of the Disclosure		
3.	<input checked="" type="checkbox"/> Drawing(s) (35 USC 113) Total Sheets _____ Total Pages 2	7.	<input type="checkbox"/> Assignment Papers (cover sheet & document(s))
4.	Oath or Declaration	8.	<input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney (where there is an assignee)
a.	<input checked="" type="checkbox"/> Newly executed (original or copy)	9.	<input type="checkbox"/> English Translation Document (if applicable)
b.	<input type="checkbox"/> Copy from a prior application (37CFR 1.63(d)) (for continuation/divisional with Box 17 completed) [Note Box 5 below]	10.	<input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input checked="" type="checkbox"/> Copies of IDS Citations
	i. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).	11.	<input type="checkbox"/> Preliminary Amendment
5.	<input type="checkbox"/> Microfiche Computer Program (Appendix)	12.	<input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503)
		13.	<input checked="" type="checkbox"/> Small Entity <input type="checkbox"/> Statement filed in prior application Statement(s) Status still proper and desired
		14.	<input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed)
16.	<input type="checkbox"/> Continuation	15.	<input type="checkbox"/> Other
	<input type="checkbox"/> Divisional		<input type="checkbox"/> Continuation-in-part (CIP) of prior application No: _____

17. CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number or Bar Code Label			<input checked="" type="checkbox"/> Correspondence address below		
(Insert Customer No. or Attach bar code label here)					
NAME	Hoyt A. Fleming III				
ADDRESS	4134 West Quail Ridge Drive				
CITY	Boise	STATE	Idaho	ZIP CODE	83703
COUNTRY	USA	TELEPHONE	(208) 898-4790	Fax	(208) 898-7211

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

RAPP. 001

FEE TRANSMITTAL	Complete if Known	
	Application Number	
	Filing Date	April 14, 1999
	First Named Inventor	Hoyt A. Fleming III
	Group Art Unit	
Examiner Name		
TOTAL AMOUNT OF PAYMENT	(\$) 389	
Attorney Docket Number		

METHOD OF PAYMENT (check one)		FEE CALCULATION (continued)																																																																																																																																																																																					
<p>1. <input type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:</p> <p>Deposit Account Number _____</p> <p>Deposit Account Name _____</p> <p><input type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17</p> <p><input type="checkbox"/> Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance, 37 CFR 1.31(b)</p> <p>2. <input checked="" type="checkbox"/> Payment Enclosed:</p> <p><input checked="" type="checkbox"/> Check <input type="checkbox"/> Money Order <input type="checkbox"/> Other</p>		<p>3. ADDITIONAL FEES</p> <table border="1"> <thead> <tr> <th>Large Fee Code</th> <th>Entity Fee (\$)</th> <th>Small Fee Code</th> <th>Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge - late provisional filing or cover sheet.</td><td></td></tr> <tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for response within first month</td><td></td></tr> <tr><td>116</td><td>380</td><td>216</td><td>190</td><td>Extension for response within second month</td><td></td></tr> <tr><td>117</td><td>870</td><td>217</td><td>435</td><td>Extension for response within third month</td><td></td></tr> <tr><td>118</td><td>1,360</td><td>218</td><td>680</td><td>Extension for response within fourth month</td><td></td></tr> <tr><td>128</td><td>1,850</td><td>228</td><td>925</td><td>Extension for response within fourth month</td><td></td></tr> <tr><td>119</td><td>300</td><td>219</td><td>150</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120</td><td>300</td><td>220</td><td>150</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121</td><td>260</td><td>221</td><td>130</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive unavoidably abandoned application</td><td></td></tr> <tr><td>141</td><td>1,210</td><td>241</td><td>605</td><td>Petition to revive unintentionally abandoned application</td><td></td></tr> <tr><td>142</td><td>1,210</td><td>242</td><td>605</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143</td><td>430</td><td>243</td><td>215</td><td>Design issue fee</td><td></td></tr> <tr><td>144</td><td>580</td><td>244</td><td>290</td><td>Plant issue fee</td><td></td></tr> <tr><td>122</td><td>130</td><td>122</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>123</td><td>50</td><td>123</td><td>50</td><td>Petitions related to provisional applications</td><td></td></tr> <tr><td>126</td><td>240</td><td>126</td><td>240</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>581</td><td>40</td><td>581</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td></td></tr> <tr><td>146</td><td>760</td><td>246</td><td>380</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>149</td><td>760</td><td>249</td><td>380</td><td>For each additional invention to be examined (37 CFR 1.129(b))</td><td></td></tr> <tr><td colspan="5">Other fee (specify) _____</td><td></td></tr> <tr><td colspan="5">Other fee (specify) _____</td><td></td></tr> <tr> <td colspan="4" style="text-align: right;">SUBTOTAL (3)</td> <td></td> <td style="text-align: right;">(\$)</td> </tr> </tbody> </table> <p>* Reduced by Basic Filing Fee Paid</p>		Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee or oath		127	50	227	25	Surcharge - late provisional filing or cover sheet.		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for response within first month		116	380	216	190	Extension for response within second month		117	870	217	435	Extension for response within third month		118	1,360	218	680	Extension for response within fourth month		128	1,850	228	925	Extension for response within fourth month		119	300	219	150	Notice of Appeal		120	300	220	150	Filing a brief in support of an appeal		121	260	221	130	Request for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive unavoidably abandoned application		141	1,210	241	605	Petition to revive unintentionally abandoned application		142	1,210	242	605	Utility issue fee (or reissue)		143	430	243	215	Design issue fee		144	580	244	290	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Petitions related to provisional applications		126	240	126	240	Submission of Information Disclosure Stmt		581	40	581	40	Recording each patent assignment per property (times number of properties)		146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))		149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))		Other fee (specify) _____						Other fee (specify) _____						SUBTOTAL (3)					(\$)
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																		
105	130	205	65	Surcharge - late filing fee or oath																																																																																																																																																																																			
127	50	227	25	Surcharge - late provisional filing or cover sheet.																																																																																																																																																																																			
139	130	139	130	Non-English specification																																																																																																																																																																																			
147	2,520	147	2,520	For filing a request for reexamination																																																																																																																																																																																			
112	920*	112	920*	Requesting publication of SIR prior to Examiner action																																																																																																																																																																																			
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action																																																																																																																																																																																			
115	110	215	55	Extension for response within first month																																																																																																																																																																																			
116	380	216	190	Extension for response within second month																																																																																																																																																																																			
117	870	217	435	Extension for response within third month																																																																																																																																																																																			
118	1,360	218	680	Extension for response within fourth month																																																																																																																																																																																			
128	1,850	228	925	Extension for response within fourth month																																																																																																																																																																																			
119	300	219	150	Notice of Appeal																																																																																																																																																																																			
120	300	220	150	Filing a brief in support of an appeal																																																																																																																																																																																			
121	260	221	130	Request for oral hearing																																																																																																																																																																																			
138	1,510	138	1,510	Petition to institute a public use proceeding																																																																																																																																																																																			
140	110	240	55	Petition to revive unavoidably abandoned application																																																																																																																																																																																			
141	1,210	241	605	Petition to revive unintentionally abandoned application																																																																																																																																																																																			
142	1,210	242	605	Utility issue fee (or reissue)																																																																																																																																																																																			
143	430	243	215	Design issue fee																																																																																																																																																																																			
144	580	244	290	Plant issue fee																																																																																																																																																																																			
122	130	122	130	Petitions to the Commissioner																																																																																																																																																																																			
123	50	123	50	Petitions related to provisional applications																																																																																																																																																																																			
126	240	126	240	Submission of Information Disclosure Stmt																																																																																																																																																																																			
581	40	581	40	Recording each patent assignment per property (times number of properties)																																																																																																																																																																																			
146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))																																																																																																																																																																																			
149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))																																																																																																																																																																																			
Other fee (specify) _____																																																																																																																																																																																							
Other fee (specify) _____																																																																																																																																																																																							
SUBTOTAL (3)					(\$)																																																																																																																																																																																		
<p>1. FILING FEE</p> <table border="1"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Large Entity Fee (\$)</th> <th>Small Entity Fee Code</th> <th>Small Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>101</td><td>760</td><td>201</td><td>380</td><td>Utility filing fee</td><td>380</td></tr> <tr><td>106</td><td>310</td><td>206</td><td>155</td><td>Design filing fee</td><td></td></tr> <tr><td>107</td><td>480</td><td>207</td><td>240</td><td>Plant filing fee</td><td></td></tr> <tr><td>108</td><td>760</td><td>208</td><td>380</td><td>Reissue filing fee</td><td></td></tr> <tr><td>114</td><td>150</td><td>214</td><td>75</td><td>Provisional filing fee</td><td></td></tr> <tr> <td colspan="4" style="text-align: right;">SUBTOTAL (1)</td> <td></td> <td style="text-align: right;">(\$) 380</td> </tr> </tbody> </table> <p>2. CLAIMS</p> <table border="1"> <thead> <tr> <th>Total Claims</th> <th>Extra</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>-20 =</td> <td>1</td> <td>X 9</td> <td>= 9</td> </tr> <tr> <td>Independent - 3 =</td> <td>0</td> <td>X 39</td> <td>= 0</td> </tr> <tr> <td>Multiple Dependent Claims</td> <td></td> <td>X</td> <td>=</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Large Entity Fee (\$)</th> <th>Small Entity Fee Code</th> <th>Small Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>103</td><td>18</td><td>203</td><td>9</td><td>Claims in excess of 20</td><td></td></tr> <tr><td>102</td><td>78</td><td>202</td><td>39</td><td>Independent claims in excess of 3</td><td></td></tr> <tr><td>104</td><td>260</td><td>204</td><td>130</td><td>Multiple dependent claim</td><td></td></tr> <tr><td>109</td><td>78</td><td>209</td><td>39</td><td>Reissue independent claims over original patent</td><td></td></tr> <tr><td>110</td><td>18</td><td>210</td><td>9</td><td>Reissue claims in excess of 20 and over original patent</td><td></td></tr> <tr> <td colspan="4" style="text-align: right;">SUBTOTAL (2)</td> <td></td> <td style="text-align: right;">(\$) 9</td> </tr> </tbody> </table>		Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid	101	760	201	380	Utility filing fee	380	106	310	206	155	Design filing fee		107	480	207	240	Plant filing fee		108	760	208	380	Reissue filing fee		114	150	214	75	Provisional filing fee		SUBTOTAL (1)					(\$) 380	Total Claims	Extra	Fee from below	Fee Paid	-20 =	1	X 9	= 9	Independent - 3 =	0	X 39	= 0	Multiple Dependent Claims		X	=	Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid	103	18	203	9	Claims in excess of 20		102	78	202	39	Independent claims in excess of 3		104	260	204	130	Multiple dependent claim		109	78	209	39	Reissue independent claims over original patent		110	18	210	9	Reissue claims in excess of 20 and over original patent		SUBTOTAL (2)					(\$) 9																																																																																		
Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																		
101	760	201	380	Utility filing fee	380																																																																																																																																																																																		
106	310	206	155	Design filing fee																																																																																																																																																																																			
107	480	207	240	Plant filing fee																																																																																																																																																																																			
108	760	208	380	Reissue filing fee																																																																																																																																																																																			
114	150	214	75	Provisional filing fee																																																																																																																																																																																			
SUBTOTAL (1)					(\$) 380																																																																																																																																																																																		
Total Claims	Extra	Fee from below	Fee Paid																																																																																																																																																																																				
-20 =	1	X 9	= 9																																																																																																																																																																																				
Independent - 3 =	0	X 39	= 0																																																																																																																																																																																				
Multiple Dependent Claims		X	=																																																																																																																																																																																				
Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																		
103	18	203	9	Claims in excess of 20																																																																																																																																																																																			
102	78	202	39	Independent claims in excess of 3																																																																																																																																																																																			
104	260	204	130	Multiple dependent claim																																																																																																																																																																																			
109	78	209	39	Reissue independent claims over original patent																																																																																																																																																																																			
110	18	210	9	Reissue claims in excess of 20 and over original patent																																																																																																																																																																																			
SUBTOTAL (2)					(\$) 9																																																																																																																																																																																		

SUBMITTED BY		Complete (if applicable)	
Typed or Printed Name	Hoyt A. Fleming III	Reg. Number	41,752
Signature	<i>Hoyt A. Fleming III</i>	Date	April 14, 1999
		Deposit Acct. User ID	N/A

RAPP. 002

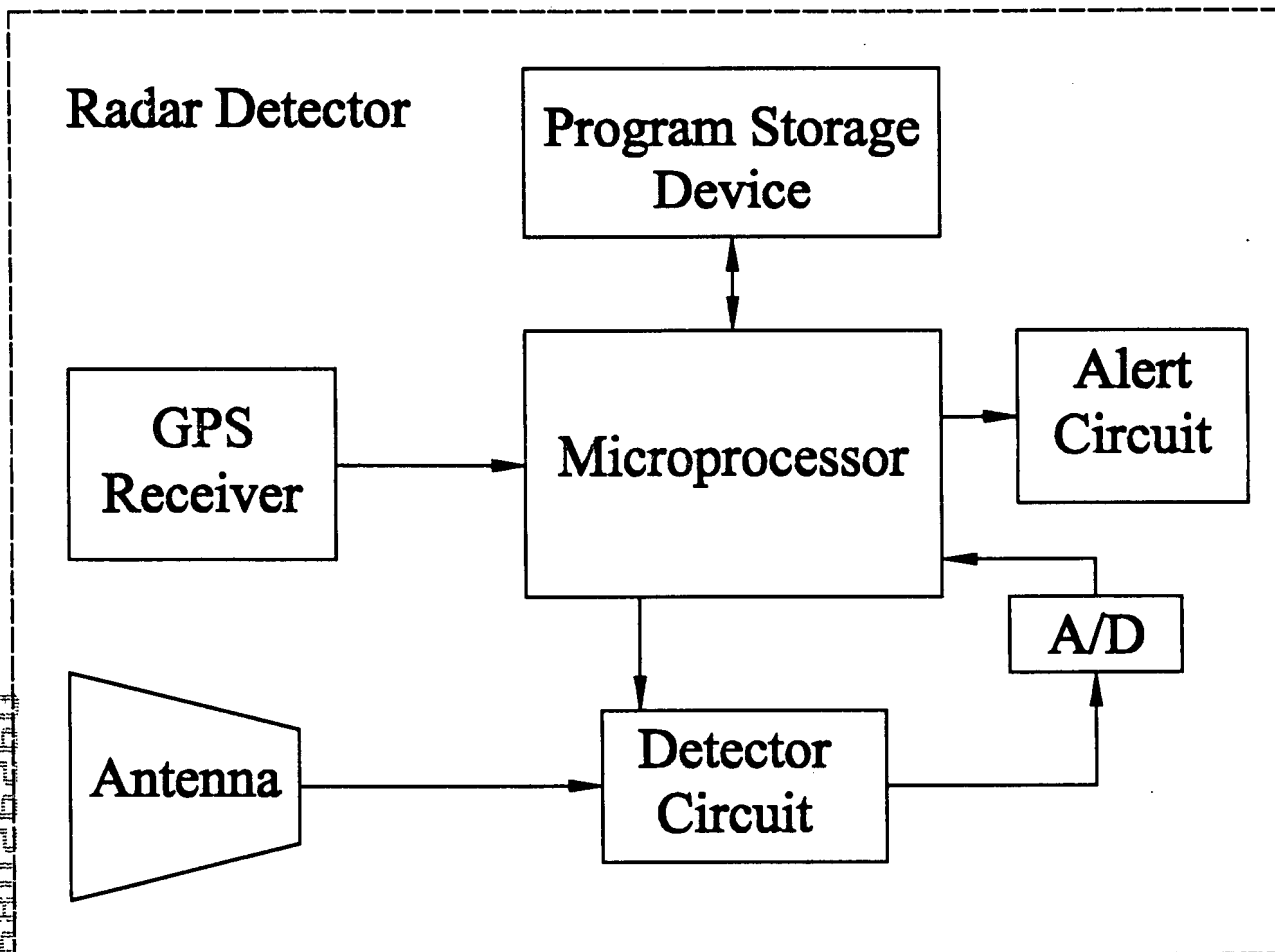


Fig. 1

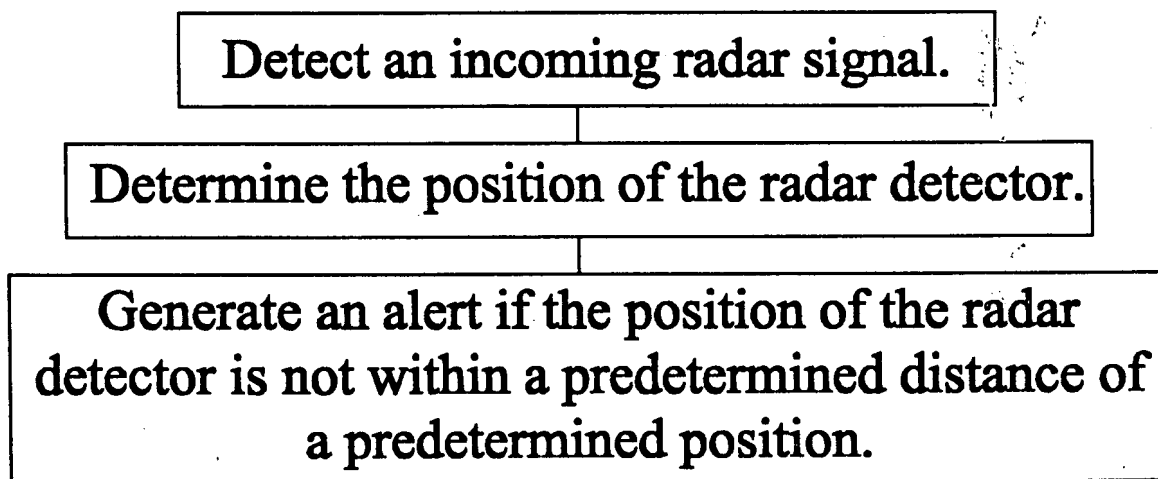


Fig. 2

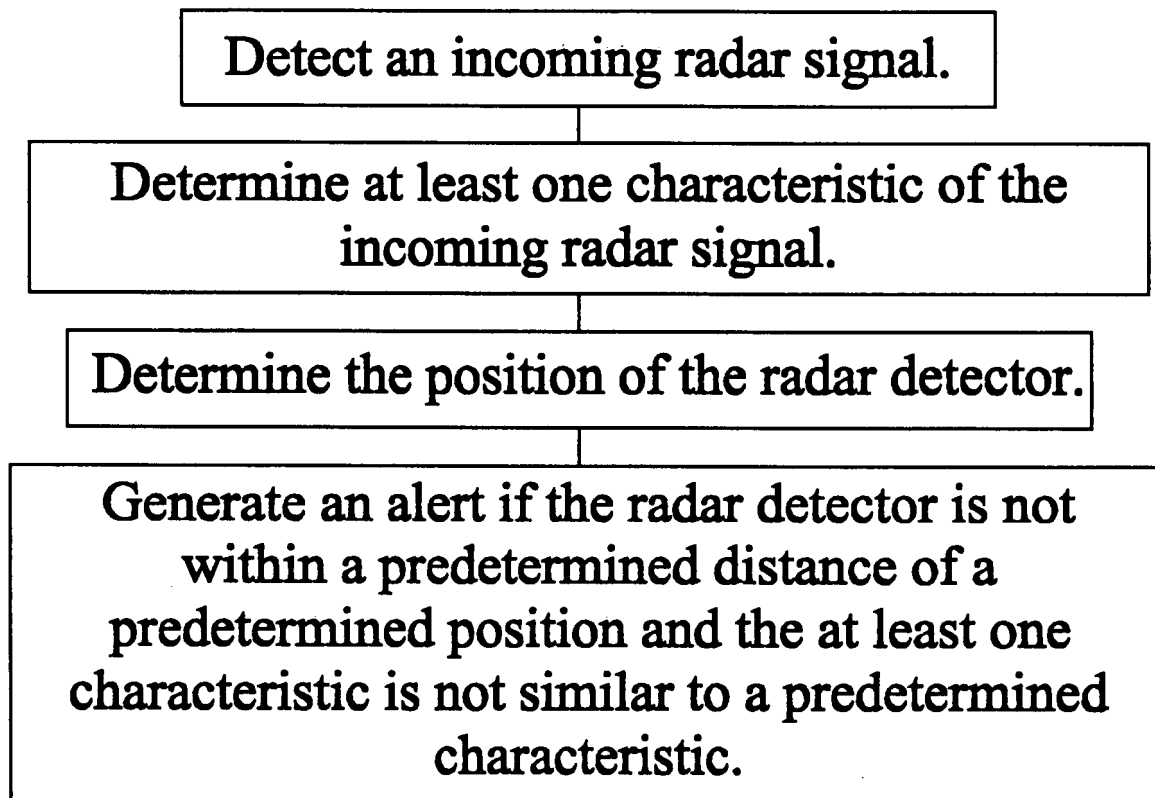


Fig. 3

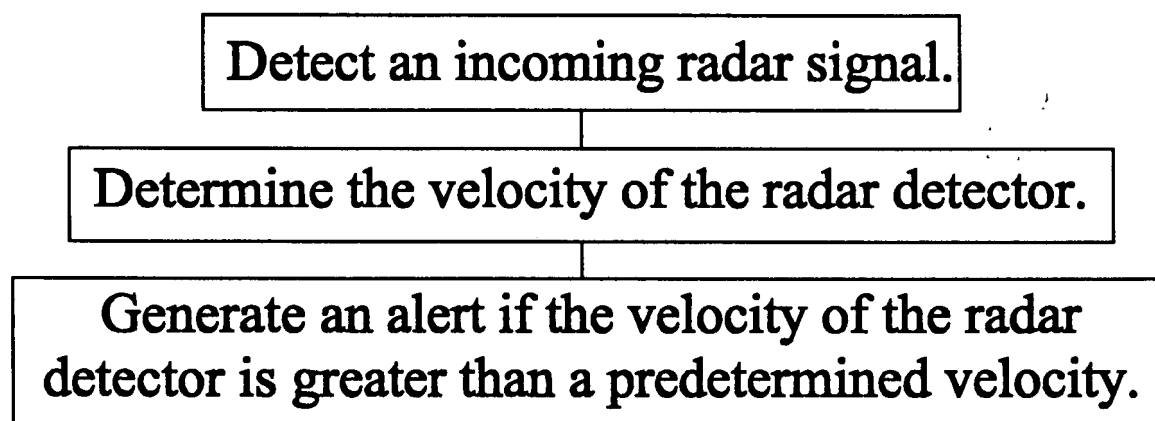


Fig. 4



APPLICATION FOR LETTERS PATENT

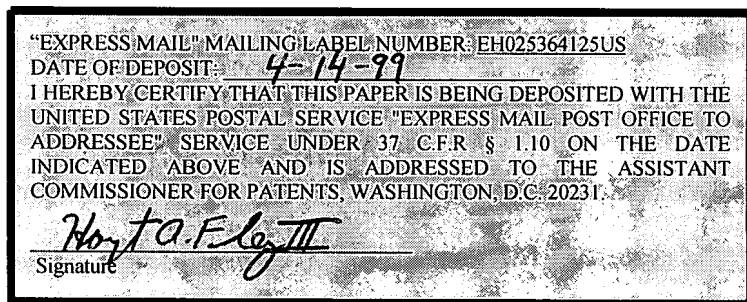
FOR

METHOD AND APPARATUS FOR ALERTING AN OPERATOR OF A MOTOR
VEHICLE TO AN INCOMING RADAR SIGNAL

INVENTOR:

HOYT A. FLEMING III

Hoyt A. Fleming III
4134 West Quail Ridge Drive
Boise, Idaho 83703
(208) 898-4790



Method and Apparatus for Alerting an Operator of a Motor Vehicle to an Incoming Radar Signal

Inventor: Hoyt A. Fleming III

5

1. Background

The present invention relates generally to police radar detectors used in motor vehicles and, more particularly, to police radar detectors that utilize a motor vehicle's position, velocity and/or heading to minimize false alarms.

10

Many operators of motor vehicles utilize radar detectors to alert them to the fact that their speed is being monitored by law enforcement agencies. However, conventional radar detectors often generate "false alarms." These false alarms are annoying to the operators of motor vehicles. In fact, various automotive publications publish results of "false alarm" tests. Thus, anything that can be accomplished by the manufacturer to reduce the number of false alarms without reducing detection of police radar is commercially valuable.

15

20

In addition to police radar signals, there are many different sources of microwave signals in the frequency bands allocated to police radar by the U.S. Federal Communications Commission (FCC). For example, motion-detecting burglar alarms and automatic door openers also operate in the frequency bands allocated to police radar. Thus, a need exists for a radar detector that can distinguish between signals generated by a police radar transmitter and those generated by other devices which utilize microwave signals within the same frequency bands.

25

30

Still another source of annoying false alarms occurs when an operator of a motor vehicle is travelling at a speed that is below the legal speed limit, such as occurs when the operator is in traffic, and the radar detector alerts him to an incoming radar signal. Even if a police radar signal is monitoring the speed of the operator's vehicle, because the velocity of the vehicle is below the legal speed limit, the operator of the vehicle may not

2

need to be alerted to the presence of the police radar signal. Thus, a need exists for a radar detector that does not generate an alert if the velocity of the radar detector is below the legal speed limit.

5 Operators have become accustomed to radar detectors activating in certain locations along commonly traveled streets and highways. Police radar units may be deployed by the side of the roadway at these locations since the police also are aware of the local activation signals and the police are aware that the signals tend to mask their own speed monitoring radar units. Thus, a need exists for a radar detector that can avoid
10 generating a false alarm due to such accustomed radar signals while still generating an alert for such police radar signals.

2. Summary of the Invention

One embodiment is a radar detector for alerting an operator of a motor vehicle to
15 an incoming police radar signal. This radar detector includes a microprocessor; a circuit coupled to the microprocessor for detecting the incoming police radar signal; and a global positioning system receiver coupled to the microprocessor. The radar detector also includes a program storage device containing instructions for determining whether to generate an alert to an incoming radar signal based upon the radar detector's position,
20 velocity, and/or heading.

Another embodiment of the invention is a method of generating an alert to an incoming radar signal. This method includes first detecting the incoming radar signal. Next, the position of a radar detector is determined. Then, an alert is generated if the
25 position of the radar detector is not within a predetermined distance of a predetermined position.

Still another embodiment of the invention is a second method of generating an alert to an incoming radar signal. This method includes first detecting the incoming radar
30 signal. Next, the velocity of the radar detector is determined. Then, an alert is generated if the velocity of a radar detector is greater than a predetermined velocity.

Ins. B1 →

3. Detailed Description of the Preferred Embodiments

3.1 Description of a First Embodiment

One embodiment of the novel radar detector is shown in Figure 1. The radar detector includes an antenna that is coupled to a detector circuit. The detector circuit, which may be controlled by the microprocessor of Figure 1, collects the signals from the antenna, detects the incoming signals, and distinguishes valid radar signals from electrical noise. The detector circuit may be any appropriate radar detector circuit capable of generating an output signal which indicates the strength, the presence, and/or the frequency of incoming radar signals. While the detector circuit may operate autonomously, operation and control of the detector circuit may be performed by the microprocessor. For example, the microprocessor may control the detector as is known in the art so that radar signals in the different frequency bands allocated to police radar signals are detected. Such detector circuits can take a wide variety of forms and can include amplifiers, mixers, diplexers, and other circuitry commonly used in the radar detector field. Several examples of such circuits are shown in U.S. Patents Numbers 4,313,216, 5,068,663, and 5,250,951, which are incorporated herein by reference.

The output of the detector circuit is coupled to the input of one or more analog-to-digital converters. These converters convert the analog output of the detector circuit into digital signals that represent signal strength, signal presence, and/or signal frequency.

In addition to being coupled to the detector circuit and the analog-to-digital converter, the microprocessor is also coupled to an alert circuit. The alert circuit communicates information regarding detected radar signals to the operator of a motor vehicle using the radar detector by means of one or more alarm tones and/or visual indicators that are included within the alert circuit. Alert circuits are known by those skilled in the art. For example, see U.S. Patents Numbers 4,313,216, 5,068,663, and 5,250,951, which are incorporated herein by reference.

664740" 68026260

The microprocessor, which may be any conventional single or multiple chip microprocessor or digital signal processor, is coupled to a program storage device. The program storage device may be any conventional memory device such as a PROM, EPROM, EEPROM, ROM, SRAM or even battery backed up DRAM. The program storage device contains machine readable instructions that command the microprocessor to perform certain functions. For example, the program storage device may be conventionally programmed to sweep a predetermined number of radar frequency bands, determine the frequency and/or signal strength of any detected radar signals in the swept frequency bands, and, if the signal strength of the detected radar signals exceed a predetermined value, then generate a signal that activates the alert circuit. Such programming is known by those skilled in the art. For example, see U.S. Patents Numbers 4,313,216, 5,068,663, and 5,250,951, which are incorporated herein by reference.

The microprocessor is also coupled to a positioning system such as a global positioning system ("GPS") receiver. As is well known, a GPS receiver receives signals from satellites and uses these signals to calculate the position of the GPS receiver. In addition, the GPS receiver may receive differential correction data and/or dead reckoning data, such as from a compass or a wheel sensor, to increase the accuracy of the receiver. By calculating the position of the GPS receiver at two different times, the velocity and heading of the GPS receiver can be easily determined using conventional algorithms. Thus, the GPS receiver can provide the microprocessor with data that indicates the position, the velocity, and/or the heading of the radar detector.

The microprocessor may also be coupled to a user interface circuit (not shown). The user interface circuit may include a plurality of buttons that are intended to be depressed by an operator of a motor vehicle. Such buttons may include: a power button, a mute button, a city/highway button, and a dim button.

As will be discussed more fully below, the program storage device may also contain machine readable instructions that command the microprocessor to determine

whether to generate an alert based upon data received from the GPS. Thus, upon detection of an incoming radar signal, the radar detector can utilize the position, velocity, and/or heading data from the global positioning system receiver to determine whether to generate an alert.

5

3.2 Description of a Second Embodiment

One method of operating the radar detector of Figure 1 is shown in Figure 2. In this embodiment, the radar detector first detects an incoming radar signal. Next, the position of the radar detector is determined. Then, an alert is generated if the position of the radar detector is not within a predetermined distance of a predetermined position.

By utilizing the above method, many false alarms may be eliminated. For example, if the position of a microwave automatic door opener is programmed into the radar detector and the radar detector detects an incoming radar signal when the radar detector's position is near the automatic door opener, then it is likely that the source of the incoming radar signal is the automatic door opener and not a police radar. Thus, using the method of Figure 2, an alert would not be generated for the detected radar signal.

The programming of predetermined positions may be accomplished by depressing one or more buttons that are coupled to the interface circuit discussed above. Thus, if an operator of a motor vehicle approaches a microwave automatic door opener, then the operator can depress an "ignore radar" button. Then, the radar detector would store the position of the radar detector and possibly the frequency and the signal strength of the incoming radar signal in the program storage device of Figure 1 or another memory device (not shown) coupled to or integrated within the microprocessor. An alternative method of storing such data would be to hold down a "mute" button for an extended length of time such as 3 to 5 seconds. It is also possible to experimentally generate a database containing position, frequency and/or signal strength for a specific geographical region. This database could be provided to operators of motor vehicles for a fee. Accessing the Internet via a cellular phone (not shown) coupled to the microprocessor of

Figure 1 would be one method of providing the above database to operators of motor vehicles.

In still another embodiment, when the operator instructs the radar detector to store a position of an incoming radar signal, the radar detector could attempt to locate the approximate position of the source of the incoming radar signal. For example, if an operator instructs the radar detector to store a position of an incoming radar signal as the operator is still approaching the source of the incoming radar signal, the signal strength of the incoming radar signal will be increasing. The radar detector could locate a position that is very near the position of the source of the incoming radar signal by determining the position of the radar detector when the strength of the incoming signal is at a maximum. In addition, radar detectors such as described in U.S. Patent 5,250,951, may utilize multiple radar antennas and signal processing logic to more accurately determine the position of the source of the incoming radar signal. For example, the position of the source of many incoming radar signals may be closely approximated by the position of a radar detector when the radar detector identifies that the radar source is to the side of the vehicle.

The predetermined distance may also be programmed by the operator of the motor vehicle. If the GPS receiver is receiving differential correction data or is receiving dead reckoning data, then the predetermined distance may be set to a smaller value because the position of the radar detector may be more precisely determined. In addition, if the strength of the incoming radar is strong, the predetermined distance could be set (manually or automatically) to a higher value because the radar detector will detect the incoming radar signal at a greater distance from the source. For example, if a radar detector in a vehicle detected a radar signal while the vehicle traveled a 1 mile distance, then the predetermined distance for that particular radar signal may be calculated by dividing the 1 mile distance in half. In order to compensate for non-symmetrical detection of the radar signal and inaccuracies of the positioning of the radar detector, an additional $\frac{1}{4}$ or $\frac{1}{2}$ mile might be added to the above predetermined distance.

3.3 Description of a Third Embodiment

The simple method of operating a radar detector shown in Figure 2 can be improved as shown in Figure 3. In this embodiment, the after the radar detects an incoming radar signal it determines a characteristic of the radar signal. For example, the radar detector may determine the frequency and/or the signal strength of the incoming radar signal. Next, the position of the radar detector is determined. Then, an alert is generated if the radar detector is not within a predetermined distance of a predetermined position and the characteristic is not similar to a predetermined characteristic.

By utilizing this method, many false alarms may be eliminated. For example, the location of a microwave automatic door opener and the frequency of the radar signal transmitted by the door opener are first programmed into a radar detector. Assume that a police radar is being transmitted near the location of the microwave automatic door opener. Because the police radar is near the automatic door opener, the method of Figure 2 would not generate an alert. Thus, the operator of a motor vehicle would not be properly alerted to the police radar. However as shown below, the method of Figure 3 would generate an alert.

If the automatic door opener signal is processed first according to the method of Figure 3, then the frequency of the automatic door opener signal would be determined. Next, the position of the radar detector would be determined. Because the radar detector is near the previously programmed position of the automatic door opener and the frequency of the incoming radar signal is equal to the previously programmed frequency of the automatic door opener, the radar detector would not generate an alert.

Next, the police radar signal would be processed. Thus, the frequency of the police radar signal would be determined. However, even though the location of the radar detector is near the previously programmed location of the automatic door opener, because the frequency of the police radar is not equal to the previously programmed frequency of the radar signal transmitted by the door opener, an alert would be generated.

4

Thus, the operator of the motor vehicle would be properly alerted to the presence of the police radar signal.

Due to inaccuracies in algorithms and slight variations in frequencies due to physical phenomena such as temperature of radar transmitters, it may not be practical to determine if a frequency of an incoming radar signal is exactly equal to a previously programmed frequency. Thus, is often sufficient to determine if the frequency of an incoming radar signal is similar to a previously programmed frequency. For example, if two frequencies are within $\frac{1}{2}$, 1, 2, 3, 4, or 5 MHz of each other, then they may be considered to be similar.

In one embodiment of the invention, 256 frequency bins are defined for each frequency band of the radar detector. Thus, this one embodiment of the invention, each of the following frequency bands would have 256 bins: X band (10.475-10.575 GHz); Ku band (13.400-13.500 GHz); K band (24.025-24.275 GHz); and Ka band (34.150-35.250 GHz). In this embodiment, frequencies are considered to be similar if they are in the same frequency band and are in the same bin. In still another embodiment, frequencies are considered to be similar if they are in the same frequency band and are in the same or adjacent bins. In these two embodiments, the exact frequency of the incoming radar signal need not be determined. Only the frequency band and the appropriate frequency bin number need be determined. If higher resolution is required, then the number of bins for one or more frequency bands can be increased. On the other hand, if only very low resolution is required, then if two frequencies are in the same frequency band, they may be considered to be similar.

3.4 Description of a Fourth Embodiment

Figure 4 shows still another method of operating the radar detector of Figure 1. In this embodiment, the radar signal is first detected. Then, the velocity of the radar detector is determined. Next, an alert is generated if the velocity of the radar detector is greater than a predetermined velocity.

This embodiment is particularly useful if the predetermined velocity is set to a value that is less than the minimum speed limit. For example, if an operator of a motor vehicle programs the predetermined velocity to 65 miles per hour, which may be the speed limit on a particular highway, then the operator will not be alerted to a radar signal unless he is speeding. Thus, the operator will not be alerted to radar signals when he is traveling at a slow rate of speed such as when the operator is in traffic. The operator could also program the predetermined velocity to the minimum speed limit that the operator is likely to encounter in a specific geographical region. For example, if the city in which the operator lives has some streets with a 25 miles per hour speed limit, then the operator could program the predetermined speed to 25 miles per hour. If the operator performed such programming, such as by depressing one or more buttons that are coupled to the interface circuit, the operator could be spared some, but not all false alarms.

A more sophisticated embodiment would not require the user to manually program the speed limit. This embodiment would obtain the speed limit from a database that contains speed limits for particular roads in a geographic region. By comparing the location and/or the heading of a motor vehicle to the location and/or heading of a plurality of roads in the above database, the radar detector could determine the particular road upon which the vehicle is traveling. After such a determination, the speed limit for the particular road could be accessed from the database. Such algorithms are known by those skilled in the art. This database could be stored on the program storage device of Figure 1 or could be stored on an external storage device such as a CD ROM or a hard disk drive. This database could also be provided to operators of motor vehicles for a fee.

3.5 Other Embodiments

In some cases, an operator of a motor vehicle may desire to be alerted to the presence of a radar signal even if the above methods would not "generate an alert." In such cases, a less intrusive alert such as a reduced volume tone, and/or a flashing LED could be generated. Thus, the phrase "generate an alert if" a condition occurs is intended to include generating a particular alert if the condition occurs. If another condition

occurs, such as detection of an incoming radar signal while the radar detector is within a predetermined distance of a predetermined position as shown in Figure 2, then another alert may be generated.

5 The above Description of the Preferred Embodiments includes words, such as “first,” “then,” and “next.” These words indicate a sequence of acts. Many of the sequences can be modified within the scope of the invention. Thus, unless the result of a first act is required for a second act, then the language indicating a sequence should not be considered to be limitations to the invention.

10

Many of the above embodiments can be combined to produce a radar detector that generates very few false alarms. For example, the methods of Figures 2 or Figure 3 can be combined with the method of Figure 4. Such combinations are intended to be within the scope of the invention.

15

6547740 68026260

4. The Claims

I claim:

1. A method of generating an alert to an incoming radar signal comprising the acts of:
- (a) detecting the incoming radar signal;
 - (b) determining the position of the device that detected the incoming radar signal; and
 - (c) generating an alert if the position of the device is not within a predetermined distance of a predetermined position.
2. The method of claim 1 wherein the act of detecting the incoming radar signal includes determining at least one characteristic of the radar signal.
3. The method of claim 2 wherein the act of determining at least one characteristic of the radar signal includes determining the frequency of the radar signal.
4. The method of claim 2 wherein the act of determining at least one characteristic of the radar signal includes determining a frequency bin number.
5. The method of claim 2 wherein the act of determining at least one characteristic of the radar signal includes determining whether the incoming radar signal is in the X frequency band, the Ku frequency band, the K frequency band, or the Ka frequency band.
6. The method of claim 2 wherein the act of determining at least one characteristic of the radar signal includes determining the signal strength of the incoming radar signal.

8
1 7. The method of claim 1 wherein the act of determining the position of the device
2 includes receiving signals from a plurality of satellites.

7
3 8. The method of claim 2 wherein the act of generating an alert includes generating
4 an alert if the at least one characteristic is not similar to a predetermined
5 characteristic.

6 9. The method of claim 1 wherein the act of determining the position of the device
7 includes receiving a differential global positioning signal.

8 10. The method of claim 1 wherein the act of determining the position of the device
9 includes receiving dead reckoning data.

10 11. A method of generating an alert to an incoming radar signal comprising the acts
11 of:
12 (a) detecting the incoming radar signal;
13 (b) determining the velocity of the device that detected the incoming radar
14 signal; and
15 (c) generating an alert if the velocity of the device is greater than a
16 predetermined velocity.

17 12. The method of claim 11 wherein the act of determining the position of the device
18 includes receiving data from a plurality of satellites.

19 13. The method of claim 11 wherein the act of determining the position of the device
20 includes receiving data from a plurality of global positioning satellites.

21 14. The method of claim 11 wherein the act of determining the position of the device
22 includes receiving differential global positioning data.

1 15. The method of claim 11 wherein the act of determining the position of the device
2 includes receiving dead reckoning data.

3 16. The method of claim 11 wherein the act of generating an alert if the velocity of
4 the device is greater than a predetermined velocity includes generating an alert if
5 the velocity of the device is greater than a velocity that has been previously
6 programmed by an operator of a motor vehicle.

7 17. The method of claim 11 wherein the act of generating an alert if the velocity of
8 the device is greater than a predetermined velocity includes generating an alert if
9 the velocity of the device is greater than a legal speed limit that is retrieved from a
10 database.

11 18. A radar detector for alerting an operator of a motor vehicle to an incoming police
12 radar signal comprising:

- 13 (a) a microprocessor;
14 (b) a circuit coupled to the microprocessor for detecting the incoming police
15 radar signal; and
16 (c) a global positioning system receiver coupled to the microprocessor.

17 19. The radar detector of claim 18, further including a program storage device that is
18 coupled to the microprocessor, the program storage device containing machine
19 readable instructions for:

- 20 (a) determining the position of a radar detector; and
21 (b) generating an alert if the position of the radar detector is not within a
22 predetermined distance of a predetermined position.

23 20. The radar detector of claim 19, wherein the program storage device includes
24 machine readable instructions for determining at least one characteristic of the
25 radar signal.

- 1 21. The radar detector of claim 18, further including a program storage device that is
2 coupled to the microprocessor, the program storage device containing machine
3 readable instructions for:
- 4 (a) determining the velocity of the device utilized to detect the incoming radar
5 signal; and
- 6 (b) generating an alert if the velocity of a radar detector is greater than a
7 predetermined velocity.

664740-68026260

14

Abstract

of The Disclosure

A radar detector for alerting an operator of a motor vehicle to an incoming police radar signal. This radar detector includes a microprocessor; a circuit coupled to the microprocessor for detecting the incoming police radar signal; and a global positioning system receiver coupled to the microprocessor. Upon detection of an incoming radar signal, the radar detector can utilize the position, velocity, and/or heading data from the global positioning system receiver to determine whether to generate an alert.

664740-68026269

PTO/SB/09 (12-97)

Approved for use through 9/30/00. OMB 0651-0031

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b)) -- INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: **Hoyt A. Fleming III**

Application or Patent No.: _____

Filed or Issued: _____

Title: **Method and Apparatus for Alerting an Operator of a Motor Vehicle to an Incoming Radar Signal**

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☐ the specification filed herewith with title as listed above.
☒ the application identified above.
☐ the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a non-profit organization under 37 CFR 1.9(e).

Each person concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such persons, concerns, or organizations exist.
☐ Persons, concerns, or organizations are listed below:

Separate verified statements are required from each named person, concern, or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Hoyt A. Fleming III
Signature of Inventor

Hoyt A. Fleming III
Name of Inventor

4-14-99
Date

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

DECLARATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **Method and Apparatus for Alerting an Operator of a Motor Vehicle to an Incoming Radar Signal**, the specification of which:

X is attached hereto.

 was filed on , as Application Serial No. .

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims.

I acknowledge the duty to disclose information which is material to patentability of the subject matter claimed in this application as "materiality" is defined in Title 37 of the Code of Federal Regulations, § 1.56.

I hereby claim the benefit of any earlier filing date in the United States to which I am entitled under Title 35 of the United States Code, § 120 and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35 of the United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 of the Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.)

(Filing Date)

(Status)

Send correspondence to:

Hoyt A. Fleming III
4134 West Quail Ridge Drive
Boise, ID 83703
(208) 898-4790

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 of the United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first or sole inventor: Hoyt A. Fleming III

Inventor's Signature: Hoyt A. Fleming III

(First, Middle Initial, Last)

Date:

Residence Address: 4134 West Quail Ridge Drive

City, State, Country: Boise, Idaho, United States of America

Citizenship: U.S.

Post Office Address: Same as residence address

SERIAL NUMBER 09/292,089	FILING DATE 04/14/99	CLASS 342	GROUP ART UNIT 3662	ATTORNEY DOCKET NO.
-----------------------------	-------------------------	--------------	------------------------	---------------------

APPLICANT
HOYT A. FLEMING III, BOISE, ID.

****CONTINUING DOMESTIC DATA*******
 VERIFIED
BEY *NONE*

****371 (NAT'L STAGE) DATA*******
 VERIFIED
BEY *NONE*

****FOREIGN APPLICATIONS*******
 VERIFIED
BEY *NONE*

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 05/04/99 ** SMALL ENTITY **

Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY ID	SHEETS DRAWING 2	TOTAL CLAIMS 21	INDEPENDENT CLAIMS 3
---	---	------------------------	---------------------	--------------------	-------------------------

Verified and Acknowledged BEY Examiner's Initials _____

ADDRESS
HOYT A FLEMING III
4134 WEST QUAIL RIDGE DRIVE
BOISE ID 83703

TITLE
METHOD AND APPARATUS FOR ALERTING AN OPERATOR OF A MOTOR VEHICLE TO AN INCOMING RADAR SIGNAL

FILING FEE RECEIVED \$389	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issuance) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
----------------------------------	---	--

RAPP. 023

Application or Docket Number

PATENT APPLICATION FEE DETERMINATION RECORD

Effective November 10, 1998

202089

CLAIMS AS FILED - PART I

(Column 1)

(Column 2)

SMALL ENTITY TYPE ☐**OTHER THAN SMALL ENTITY**

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	21 minus 20 = *	1
INDEPENDENT CLAIMS	3 minus 3 = *	—
MULTIPLE DEPENDENT CLAIM PRESENT		

RATE	FEE
	380.00
X\$ 9=	9
X39=	
+130=	
TOTAL	389

RATE	FEE
	760.00
X\$18=	
X78=	
+260=	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY**OTHER THAN SMALL ENTITY**

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 21	Minus ** 21	=
Independent	* 3	Minus *** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

RATE	ADDITIONAL FEE
X\$ 9=	
X39=	
+130=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X78=	
+260=	
TOTAL	
ADDITIONAL FEE	

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 21	Minus ** 21	=
Independent	* 3	Minus *** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

RATE	ADDITIONAL FEE
X\$ 9=	
X39=	
+130=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X78=	
+260=	
TOTAL	
ADDITIONAL FEE	

AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

RATE	ADDITIONAL FEE
X\$ 9=	
X39=	
+130=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X78=	
+260=	
TOTAL	
ADDITIONAL FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.